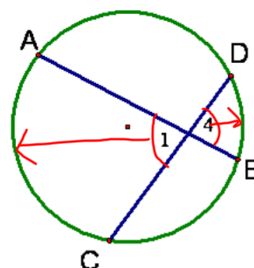


## 11.6 Properties of Chords

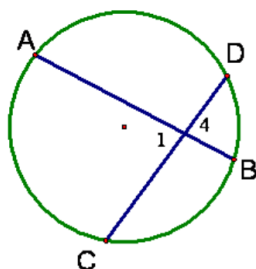
Part 1

Name the inscribed angles and their intercepted arcs.

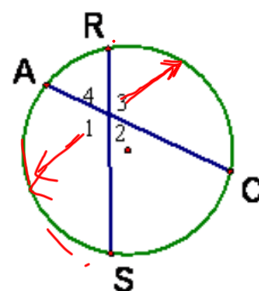
$$\begin{aligned}
 m\angle ADC &= \frac{1}{2} m\widehat{AC} \\
 m\angle DAB &= \frac{1}{2} m\widehat{DB} \\
 m\angle &= \frac{m\angle ADC + m\angle DAB}{1} \\
 m\angle &= \frac{\frac{1}{2} m\widehat{AC} + \frac{1}{2} m\widehat{DB}}{1} \\
 &= \frac{1}{2} (m\widehat{AC} + m\widehat{DB})
 \end{aligned}$$



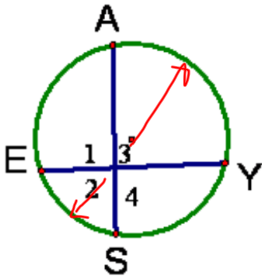
**Theorem 11.10** -If two chords intersect inside of a circle, then the measure of each angle formed is one half the sum of the measures of the intercepted arcs.



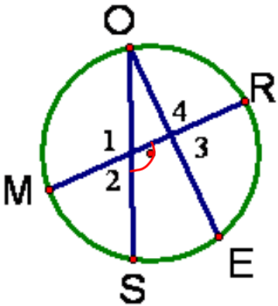
$$\begin{aligned}
 \angle 1 & \widehat{AS} \quad \widehat{RC} \\
 \angle 2 & \widehat{SC} \quad \widehat{AR} \\
 \angle 3 & \widehat{RC} \quad \widehat{AS} \\
 \angle 4 & \widehat{AR} \quad \widehat{CS}
 \end{aligned}$$



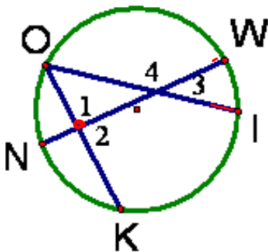
- $\angle 1$   $\widehat{AE}$   $\widehat{YS}$
- $\angle 2$   $\widehat{ES}$   $\widehat{AY}$
- $\angle 3$   $\widehat{ES}$   $\widehat{AY}$
- $\angle 4$   $\widehat{EA}$   $\widehat{SY}$



- $\angle 1$   $\widehat{MO}$   $\widehat{RS}$
- $\angle 2$   $\widehat{MS}$   $\widehat{OR}$
- $\angle 3$   $\widehat{RE}$   $\widehat{MO}$
- $\angle 4$   $\widehat{OR}$   $\widehat{ME}$

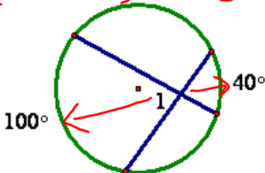


- $\angle 1$   $\widehat{OW}$   $\widehat{NK}$
- $\angle 2$   $\widehat{KW}$   $\widehat{NO}$
- $\angle 3$   $\widehat{WI}$   $\widehat{NO}$
- $\angle 4$   $\widehat{OW}$   $\widehat{NI}$

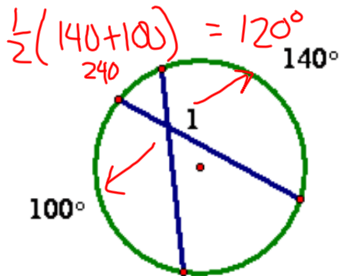


Find the measure of  $\angle 1$ .

$\frac{1}{2}(100+40) = 70^\circ$

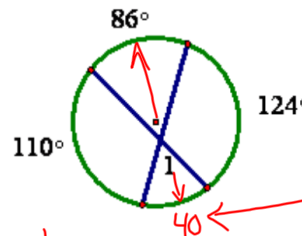


Find the measure of  $\angle 1$ .



$$\frac{1}{2}(140 + 100) = 120^\circ$$

Find the missing arc, and then find the m  $\angle 1$ .

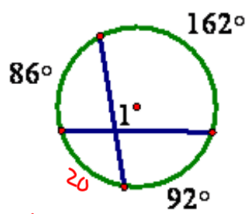


$$\frac{1}{2}(40 + 86) = 63^\circ$$

Fill in the blank

$$\begin{array}{r} 360 \\ - 320 \\ \hline 40 \end{array}$$

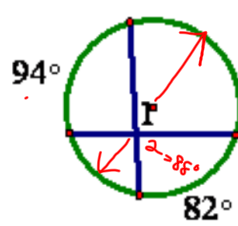
Find the missing arc, and then find the m  $\angle 1$ .



$$\frac{1}{2}(162 + 20) = 91^\circ$$

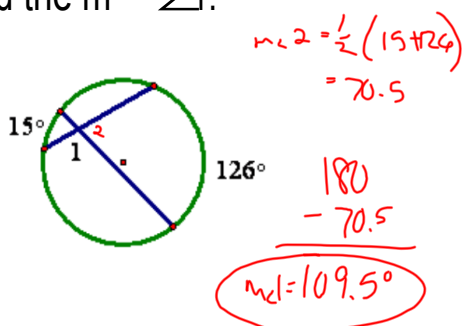
$$\begin{array}{r} 360 \\ - 340 \\ \hline 20 \end{array}$$

Find the m  $\angle 1$ .

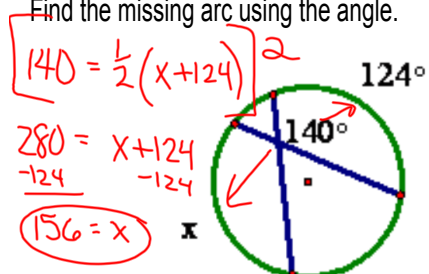


$$m\angle 2 = \frac{1}{2}(94 + 82) = 88$$

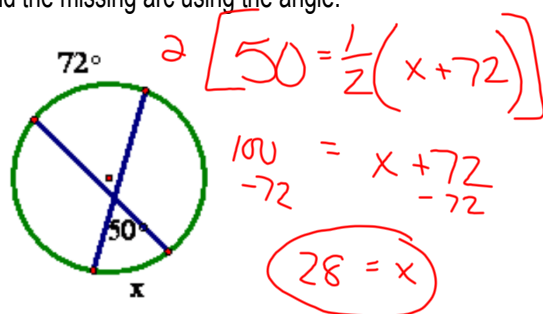
$$\begin{array}{r} 180 \\ - 88 \\ \hline m\angle 1 = 92^\circ \end{array}$$

Find the  $m \angle$ .

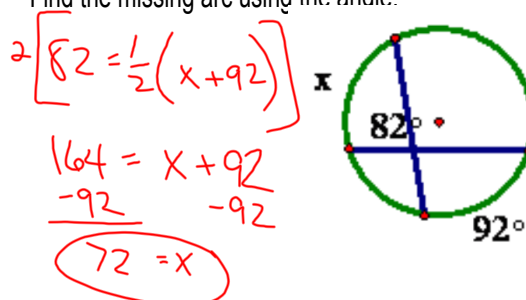
Find the missing arc using the angle.



Find the missing arc using the angle.



Find the missing arc using the angle.

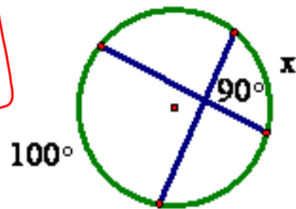


Find the missing arc using the angle.

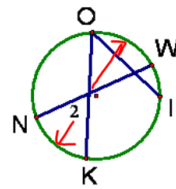
$$2 \left[ 90 = \frac{1}{2} (x + 100) \right]$$

$$180 = x + 100$$

$$80 = x$$



1. Name the intercepted arcs for



$\widehat{NK}$  and  $\widehat{IW}$

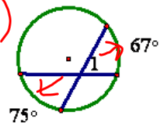
2.

2. Find the m

1.

$$\frac{1}{2} (75 + 67)$$

$$71^\circ$$

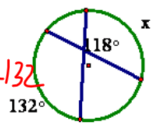


$$2 \left[ 118 = \frac{1}{2} (x + 132) \right]$$

3. Find x.

$$236 = x + 132$$

$$104 = x$$



p623-624

2-4, 8-17, 23-25